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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/874,245	06/06/2001	James David Smith	12310-003	5933

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EXAMINER	
NGUYEN, KIMNHUNG T	

ART UNIT	PAPER NUMBER
2674	5

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/874,245	SMITH ET AL.	
	Examiner	Art Unit	
	Kimnhung Nguyen	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-21* is/are rejected.

7)☒ Claim(s) *4* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Application has been examined. The claims 1-21 are pending. The examination results are as following.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 5, 8-10, 13, 15-16, and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Simson et al. (US 5,717,424).

Regarding claim 1, Simson et al. disclose in figures 1-3, 9, a substrate positioning device for positioning a substrate within a substrate scrolling display having a display window (26), a substrate storage tube (8, 9) for storing the substrate and a motor driver (12, 13) coupled to the substrate storage tube for scrolling the substrate, such that a display art frame (see banners 1, 2, 3 figure 1) on the substrate is positioned within the display window, said substrate positioning device comprising a rotary encoder (8, 9) coupled to the substrate storage tube for detecting the rotary position of the substrate storage tube, a controller (121, figure 9) coupled to said rotary encoder comprising a memory for storing the rotary position of the substrate storage tube that corresponds to the position of the substrate when the display art frame is positioned within the display window (see program inside the microprocessor, see column 9, lines 21-33); a processor coupled to said memory programmed to access said rotary position in response to a request to

display the display art frame within the display window (see column 9, lines 17-33), a display interface coupled to said controller for instructing the motor driver to rotate the substrate storage tube such that the display art frame is positioned within the display window (see figure 9).

Regarding claim 2, Simson et al. disclose, wherein the display art frame contains first and second frame markers (see figure 1) and comprising first and second frame sensors coupled to said controller for detecting said first and second frame markers (see IR photo emitter and IR photo transistor (see column 10, lines 3-6), said processor being programmed to determine the rotary position of the substrate storage tube that corresponds to the position of the substrate when the first and second frame markers of the display art frame are detected and to store said rotary position in said memory (see figures 13, column 10, lines 54-60).

Regarding claims 5, and 15, Simson et al. disclose, wherein said first frame marker is located at the top of the display art frame and the second frame marker is located at the bottom of the display art frame (because banner 1, 2 located at top and bottom of display art).

Regarding claim 8, Simson et al. disclose a method for positioning a substrate within a substrate scrolling display having a display window, a substrate storage tube for storing the substrate and a motor driver coupled to the substrate storage tube for scrolling the substrate, said method comprising the steps of (providing a substrate with a display art frame within said substrate scrolling display storing the rotary position (8, 9) of the substrate storage tube that corresponds to the position of the substrate when the display art frame (see banner 1, 2, 3) is

positioned within the display window (26); retrieving said rotary position in response to a request to display the display art frame within the display window; an inherent adjusting the rotary position of the substrate storage tube such that the display art frame is positioned within the display window.

Regarding claim 9, Simson et al. disclose the method comprising the additional steps (e) of applying first and second frame markers to said display art frame; (f) detecting first and second frame markers such that the display art frame is positioned within the display window; (g) determining the rotary position of the substrate storage tube when the first and second frame markers have been detected for storage and retrieval in steps (b) and (c) as discusses above.

Regarding claim 10, Simson et al. disclose, wherein step (d) comprises instructing the motor driver (12) to rotate the substrate storage tube (8, 9).

Regarding claim 13, Simson et al. disclose, wherein step (f) comprises detecting said first and second frame markers using optical sensors (see column 6, lines 3-6).

Regarding claim 16, simson et al. disclose in figures 1-3 a display art substrate assembly for use within a scrolling substrate display, said display art substrate assembly comprising: (a) a substrate having an inherent first coefficient of expansion and a first resistance to deformation (see an applying a stretching force to the banner, see column 7, lines 12-25), said substrate being adapted to be moveable within said scrolling display, (b) a removeable display art sheet (see

banners 1, 2, 3 removed, see column 3, lines 17-23) for attachment to said substrate, said removeable display art sheet having an inherent second coefficient of expansion which is substantially equal to the first coefficient of expansion of said substrate and a second resistance to deformation which is substantially equal to the first resistance to deformation of said substrate; such that when said removeable display art sheet is brought into close contact with said substrate, substantially identical stresses are produced within said substrate and said removable display art sheet and substantial cling adhesion is produced therebetween (see figures 1-3).

Regarding claim 18, Simson et al. disclose in figure 11, wherein said removable display art sheet (143) is comprised of a base, an ink receptive top coating positioned on top of said base and a cling film backing positioned under said base which is adapted to adhere to said substrate (see column 10, lines 61-67).

Regarding claim 19, Simson et al. disclose in figure 1, wherein said substrate (4) is comprised of antistatic polyester film (see transparent web, see column 4, lines 41-43).

Regarding claim 20, Simson et al. disclose, wherein said removable display art sheet (1, 2, 3) is comprised of antistatic polyester film (see column 6, lines 38-44).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 3, 6-7,11- 12, 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simson et al. (US 5,717,424) in view of Younger et al. (US 6,445,966). Simson et al. disclose every feature of the claimed invention, excluding wherein the rotary sensing device is a quadrature device, and the motor interface provides the signal in RS485 or RS232 format, wherein said substrate has an optical opacity rating of substantially 0.6%.

Regarding claims 3 and 14, it would have been obvious for Simson et al.'s system to have the rotary sensing device is a quadrature device as claimed since such a modification would have involved a mere change in shape of the system. A change in shape is generally recognized as being within the level of ordinary skill in the art.

See In re Dailey, 149 USPQ 47 (CCPA 1976).

Regarding claim 17, it would have been obvious for Simson et al.'s system to have substrate has an optical opacity rating of substantially 0.6% as claimed sine such a modification would have involved a mere change in range of the system. A change in range is generally recognized as being within the level of ordinary skill in the art.

See In re Reven, 156 USPQ 679 (CCPA 1968).

Regarding claims 6-7, and 11-12, Younger et al. disclose a data interface module for motor control system having a signal RS485 format (see figure 23, column 16, lines 13-20) and an inherent a signal RS232. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the using of motor control having the signal RS485

format as taught by Younger et al. into the substrate positioning of Simson et al. because this would allow microcontroller to transmit and receive signals from the other motor controls over the network (see Younger et al., column 16, lines 16-20).

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simson et al. (US 5,717,424) in view of Grillo et al. (US 6,717,589).

Simson et al. do not disclose a tool having a soft surface for removing air bubbles from between said substrate and said removable display art sheet. Grillo et al. disclose in the figure 4A, the balloons (68A-68L, or air bubbles) are positioned by a graphic artist (see column 8, lines 10-18). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the using of air bubbles as taught by Grillo et al. into the display art substrate of Simson et al. because this would maximize readability and best present help to the end user with the operation of various elements in the display (see abstract and see column 8, lines 10-18).

Allowable Subject Matter

6. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: The present invention is directed to a substrate positioning device for positioning a substrate within a substrate scrolling display having a display window, a substrate storage tube for storing the substrate and a motor driver coupled to the substrate storage tube for scrolling the substrate,

such that a display art frame on the substrate is positioned within the display window, said substrate positioning device comprising a rotary encoder coupled to the substrate storage tube for detecting the rotary position of the substrate storage tube, a controller coupled to said rotary encoder comprising a memory for storing the rotary position of the substrate storage tube that corresponds to the position of the substrate when the display art frame is positioned within the display window; a processor coupled to said memory programmed to access said rotary position in response to a request to display the display art frame within the display window, a display interface coupled to said controller for instructing the motor driver to rotate the substrate storage tube such that the display art frame is positioned within the display window. The closest prior art, Simson et al. show a similar system also comprising a rotary encoder coupled to the substrate storage tube for detecting the rotary position of the substrate storage tube, a controller coupled to said rotary encoder comprising a memory for storing the rotary position of the substrate storage tube that corresponds to the position of the substrate when the display art frame is positioned within the display window; a processor coupled to said memory programmed to access said rotary position in response to a request to display the display art frame within the display window. However, they fail to teach wherein the first and second frame sensors are optical sensors, each comprising two infrared emitting diodes and an infrared received.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimnhung Nguyen whose telephone number (703) 308-0425.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached on **(703) 305-4709.**

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D. C. 20231

Or faxed to:

(703) 872-9314 (for Technology Center 2600 only).

Hand-delivery response should be brought to: Crystal Park II, 2121 Crystal Drive, Arlington, VA Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Kimnhung Nguyen
July 22, 2004

RICHARD HJERPE 7/22/04
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600